

POLYCHAETA OF THE "ROSAURA" EXPEDITION.

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(With 4 text-figures.)

THE Polychaeta of this report were collected by Dr. J. S. Colman during the 1937-38 expedition of Lord Moyne's M.Y. *Rosaura*.

They fall into four groups: (1) shallow-water, coastal, benthic forms from east and south-west Greenland and from Labrador; (2) similar forms from the West Indies and off British Honduras; (3) deep water, benthic forms obtained off Grenada and off the Canary Islands; (4) pelagic forms obtained at various positions from the West Greenland Current to the Equator.

There are altogether 71 species belonging to 41 genera. I have established a new genus of Maldanids on a specimen taken off British Honduras which has the dorsal surface of several segments provided with a coating of long papillae which I believe to be branchial. As far as I know, this is the first record of branchial papillae in the family. I have also described a new *Eunice* related to *E. cariboa* Grube from deep water off Grenada and a new variety of Fauvel's *Harmothoe joubini* from deep water off the Canary Islands.

Much of the ground represented by the present collection has already been covered in a masterly fashion by Prof. P. Fauvel in his reports on the collections made from the yachts of Prince Albert I of Monaco, and I have decided, instead of writing a full report, simply to give a list of the species with their stations and to restrict myself to the description of the new forms and to commentary only in very special cases. Some of the material, especially the pelagic forms (excluding the Tomopterids), is very remarkably preserved and is thoroughly suitable for commentary, but I repeat that much of the ground has already been covered.

Station 1, 65° 35' N., 37° 20' W., Angmagssalik Harbour, gear 2-ft. dredge, depth 30-50 m.: ¹

- Harmothoe imbricata* (L.).
- Lagisca extenuata* (Grube).
- Gattyana cirrosa* (Pallas).
- ? *Eteone flava* (Fabricius).
- Nereis zonata* Malmgren.
- Onuphis conchylega* Sars.
- Lumbrinereis fragilis* (O. F. Müller).
- Scoloplos armiger* (O. F. Müller).
- Scalibregma inflatum* Rathke.
- Anmotrypane aulogaster* Rathke.
- Thelepus cincinnatus* (Fabricius).
- Pista maculata* (Dalyell).

¹ Nearly all the species in this list are described with full references by Fauvel in the *Faune de France*, vols. V and XVI, 1923 and 1927. Those that are not so described have the date of the original description placed after the author's name.

Station 4, 60° 30' N., 46° 40' W. to 60° 35' N., 46° 45' W., off Julianehaab, gear 3-ft. dredge, depth 550 m. :

? *Pista maculata* (Dalyell).

Station 5, 60° 43' N., 46° 02' W., Julianehaab Harbour, gear 2-ft. dredge, depth c. 20 m. ; cod long line, depth 0-80 m. ; shore coll. :

Gattyana cirrosa (Pallas).

Harmothoë imbricata (L.).

Eteone longa (Fabricius).

Eulalia viridis (O. F. Müller).

Nereis pelagica L.

Nainereis quadricuspida (Fabricius).

Arenicola marina (L.).

Pectinaria granulata (L.) 1767.

Thelepus cincinnatus (Fabricius).

Spirorbis granulatus (L.).

Station 6, 60° 06' N., 45° 25' W., off Nanortilik, gear 3-ft. dredge, depth 110 m. :

Gattyana cirrosa (Pallas).

Phyllodoce groenlandica Oersted.

Nephthys caeca Fabricius.

Nephthys ciliata (O. F. Müller).

Onuphis conchylega Sars.

Lambrinereis fragilis (O. F. Müller).

Stylarioides plumosa (O. F. Müller).

Owenia fusiformis Delle Chiaje.

Myriochele heeri Malmgren.

Amphitrite cirrata (O. F. Müller).

Terebellides stroemi Sars.

Potamilla neglecta (Sars) 1851.

Station 8, 58° 48' N., 46° 11' W., West Greenland current, gear 2-m. stramin net, depth 1300-0 m. :

Travisiopsis levinseni Southern.

Tomopteris septentrionalis Quatrefages.

Station 9, 52° 13' N., 55° 45' W., north-east arm, Horn Bay, Niger Sound, Labrador, shore coll. :

Nereis virens (Sars).

Station 10, 52° 13' N., 55° 47' W., north-west arm, Horn Bay, Labrador, gear 2-ft. dredge, depth 15 m. :

Lagisca extenuata (Grube).

Nereis pelagica L.

Nephthys ciliata (O. F. Müller).

? *Pectinaria granulata* (L.) 1767.

Ampharete goesi (Malmgren) 1865.

Terebellides stroemi Sars.

Station 13, 36° 88' N., 74° 23' W., between Gulf Stream and coast ; probably in counter-current, gear 2-m. stramin net, depth 750-0 m. :

Lagisca hubrechtii (McIntosh).

Sagitella kowalewskii Wagner.

Station 15, 18° 21' N., 75° 25' W., gear 2-m. stramin net, depth c. 1250-0 m. :

Harmothoë benthophila Ehlers 1913.

Tomopteris planktonis Apstein.

Lopadorhynchus uncinatus Fauvel.

Station 16, 19° 18' N., 81° 24' W. to 19° 18' N., 81° 22' W., Georgetown, Grand Cayman, shore coll., coral rock ; and North Sound, Grand Cayman, gear 2-ft. dredge, depth 2 m. :

Opisthosyllis nuchalis Verrill 1900.

Eunice vittata (Delle Chiaje) juv.

Sabella melanostigma Schmarda 1861.

Station 22, 17° 28' N., 88° 11' W., Belize Harbour, gear 2-ft. dredge, depth 6 m. :

Branchioasychis colmani gen. et sp. nov.

Station 23, 17° 29' N., 88° 10' W., Belize Harbour, gear silk tow-net, depth 2-3 m. :

Loimia medusa (Savigny) 1820, larvae.

Station 24, 17° 15' N., 87° 49' W. to 17° 16' N., 87° 50' W., Indian Cay, Turneffe Is., shore coll. ; Turneffe Is., gear 2-ft. dredge, depth 4 m. :

Hermodice carunculata Pallas.

Syllis spongicola Grube.

Syllis brachychaeta Schmarda 1861.

Opisthosyllis nuchalis Verrill 1900.

Polyophtalmus pictus (Dujardin).

Station 27, 16° 22' N., 86° 40' W., off west end of Roatan Is., gear 2-m. stramin net, depth 600-0 m. :

Harmothoë benthophila Ehlers 1913.

Tomopteris kefersteini Greeff.

Lopadorhynchus uncinatus Fauvel.

Lopadorhynchus brevis Grube.

Station 28, 16° 44' N., 85° 42' W., north of Bonacca Is., gear 2-m. stramin net, depth c. 1100-0 m. :

Harmothoë benthophila Ehlers 1913.

Lopadorhynchus uncinatus Fauvel.

? *Tomopteris nisseni* Rosa.

Callizona moebii Apstein.

Station 31, 15° 54' N., 82° 13' W., off Gorda Cay, Mosquito Bank, gear 3-ft. dredge, depth 34 m. :

Syllis corallicola Verrill 1900.

Syllis spongicola Grube.

? *Glycera longipinnis* Grube 1878.

Nereis trifasciata Grube 1878 juv.

? *Pista cristata* (Müller) juv.

Station 32, 12° 42' N., 80° 25' W., gear 2-m. stramin net, depth 900–0 m. :

Lopadorhynchus uncinatus Fauvel.

Lopadorhynchus brevis Grube.

Callizona angelini (Kinberg).

Tomopteris nisseni Rosa.

Tomopteris ligulata Rosa.

Station 34, 12° 05' N., 61° 49' W., off St. George, Grenada, gear Agassiz trawl, depth 720–800 m. :

Dalhousiella carpenteri McIntosh.

Eunice rosaurae n. sp.

Station 36, 7° 11' N., 57° 59' W., off Demerara, gear otter trawl, depth 20 m. :

Onuphis magna (Andrews) 1891.

Station 37, 7° 47' N., 58° 17' W., off River Essequibo, gear otter trawl, depth 23 m. :

Loimia medusa (Savigny) 1820.

Station 42, 5° 51' S., 35° 38' W., off north-east Brazil, gear 2-m. stramin net, depth 1200–0 m. :

Alciopa cantrainii (Delle Chiaje).

Station 43, 3° 35' S., 32° 20' W., 12 miles north of Fernando Noronha, gear 2-m. stramin net, depth 750–0 m. :

Chloeia larva.

Travisiopsis lanceolata Southern.

Sagitella kowalewskii Wagner.

Tomopteris nisseni Rosa.

Spionid larvae.

Station 44, 0° 56' N., 29° W., St. Paul's Rocks shoal, gear 3-ft. dredge, depth 50–60 m. ; close to the rocks, gear silk tow-net, depth 2 m. :

Syllis gracilis Grube.

Syllis corallicola Verrill 1900.

Eunice cariboa Grube, var. *kinbergii* Webster 1884.

Station 45, 4° 15' N., 26° 20' W., northern edge of north equatorial current, gear 2-m. stramin net, depth 900–0 m. :

Callizona setosa (Greeff).

Vanadis formosa Claparède.

Station 46, 7° 27' N., 23° 08' W., Guinea current, gear 2-m. stramin net, depth 1000–0 m. :

Travisiopsis lanceolata Southern.

? *Tomopteris nisseni* Rosa.

Tomopteris helgolandica Greeff.

Tomopteris sp.

Station 49, 28° 25' N., 13° 34' W., between Fuerteventura Is. and Africa, gear Agassiz trawl, depth c. 1300 m. :

Macellicephala mirabilis McIntosh 1885.

Robertianella synophthalma McIntosh 1885.

Harmothoe joubini Fauvel, var. *rosaurae* var. nov.

Leocrates atlanticus McIntosh.

Hyalinoecia tubicola (O. F. Müller).

GENUS *HARMOTHOE* KINBERG 1855.

 1. *Harmothoe benthophila* Ehlers 1913 (text-fig. 280).

Ehlers, 1913, p. 444, pl. xxvii, figs. 5-11; nec Fauvel, 1923, p. 68, fig. 24, h-o.

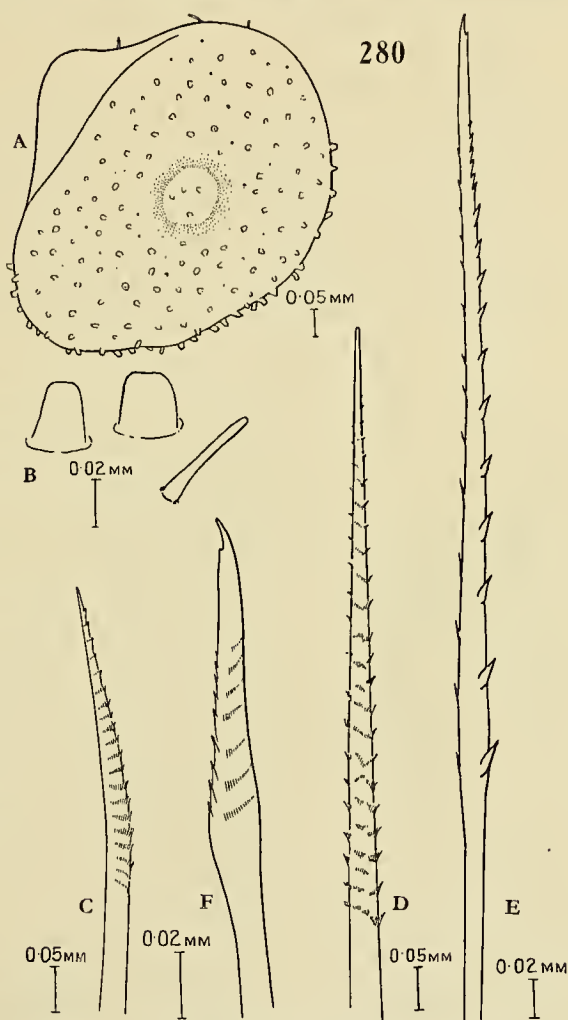
Occurrence.—Station 15, 18° 21' N., 75° 25' W., gear 2-m. stramin net, depth 1250-0 m. (1).

Station 27, 16° 22' N., 86° 40' W., off west end of Roatan Is., gear 2-m. stramin net, depth 600-0 m. (1).

Station 28, 16° 44' N., 85° 42' W., north of Bonaccia Is., gear 2-m. stramin net, depth 1100-0 m. (1).

Remarks.—The largest of these specimens measures *c.* 8 mm. in length for 28 chaetigers. The exact number of elytophores is difficult to determine, but I estimate 11 pairs of scales. There are no prostomial peaks. The two pairs of large, contiguous eyes have white lenses. The palps and tentacles are smooth. Only a single detached scale (text-fig. 280, A) remains. This is more or less round, and dotted with short, rather stout tubercles with truncated tops. There are in addition a few slender papillae scattered about the scale (text-fig. 280, B). The feet are as figured by Ehlers. The dorsal bristles are of two kinds: (1) short, transparent, backwardly curved and carrying rows of pectinae (text-fig. 280, C); and (2) very large, straight, transparent bristles carrying pectinae arranged in a spiral and having simple blunt tips (text-fig. 280, D). The upper and middle ventral bristles are very long and slender, carry rows of pectinae and have faintly bidentate tips (text-fig. 280, E). The lower ventral bristles are shorter, stouter, and have smooth or very faintly bidentate tips (text-fig. 280, F). The body ends in a small, pygidial appendage.

Except that I find the ventral bristles faintly bidentate, these specimens agree closely with that described by Ehlers from 18° N., 30° W., taken at a depth of 3000-0 m. Those seen by Fauvel, on the other hand, from off the Azores



TEXT-FIG. 280.—*Harmothoe benthophila*: A, elytron; B, tubercles and papillae from scale; C, dorsal bristle; D, giant dorsal bristle; E, upper ventral bristle; F, lower ventral bristle.

have both kinds of dorsal bristle with blunt, double-pointed tips, a difference which caused Fauvel (1916, p. 24) to erect his var. *bimucronata*. In 1923 (*loc. cit.*) he abandons the varietal name and gives the varietal characters as those of Ehlers's species. The specimens from 10° N., 27° W., attributed by me (1936, p. 87) to Ehlers's species, belong in fact to Fauvel's var. *bimucronata*.

Whether *H. benthophila* and *H. benthophila* var. *bimucronata* are stages in the development of the same species or represent the juvenile phase of different species there is at present no evidence to decide.

2. *Harmothoë joubini* Fauvel var. *rosaurae* var. nov. (text-fig. 281).

Harmothoë joubini, Fauvel, 1914, p. 54, pl. iii, figs. 6-12.

Occurrence.—Station 49, 28° 25' N., 13° 34' W., between Fuerteventura Is. and Africa, gear Agassiz trawl, depth c. 1300 m. (4).

Description.—Only one specimen is complete, and this measures 17 mm. by 3 mm. without the feet for 36 chaetigers. In spirit the head is colourless, but the back is purplish red, and there is a pair of ventro-lateral purple stripes. The elytra are colourless. There are 15 pairs and the last 5-6 chaetigers are without scales.

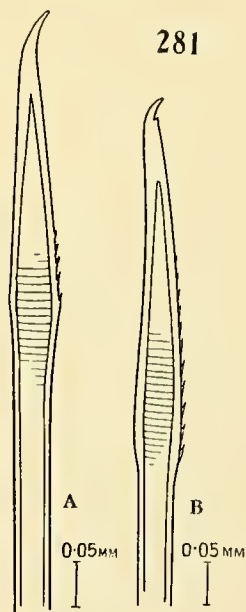
The head has well-developed prostomial peaks, and two pairs of very small laterally placed eyes, the anterior pair lying about half-way up the head. There is a massive median tentaculophore, but the median tentacle is lost. The lateral tentacles are about as long as the head. The palps reach back to about the 5th chaetiger. I see no facial tubercle. The tentacular cirri are lost.

The elytra are large, soft, colourless and completely smooth except for a patch of small acuminate tubercles near the scar of attachment. Pseudo-elytrophores are present in the cirriferous segments.

The dorsal cirri are all detached, but a few lie loose among the bristles. They would seem to reach about to the end of the bristles. They, as also the tentacles and palps, are smooth. Both rami of the feet are extended by long, sheathed acicula. The ventral cirri reach to the end of the foot. The dorsal bristles are rather short, sword-like and faintly pectinate. The ventral bristles are large, expanded distally, almost smooth and with curved tips. They may be either unidentate or very faintly bidentate (text-fig. 281, A and B). The lower ventral bristles are short and always unidentate.

The pygidium is damaged.

Remarks.—These specimens are clearly very close to Fauvel's *H. joubini* taken at a depth of 1473 m. about 60 miles off Cape St. Vincent. They differ (1) in the absence of a facial tubercle; (2) in having a different type of ventral bristle. In Fauvel's species the ventral bristles are strongly bidentate. These differences are not, in my opinion, of more than subspecific value. Both Fauvel's specimens and mine are deep-water forms, being taken at a depth of over 1000 m.



TEXT-FIG. 281.—*Harmothoë joubini* var. *rosaurae*: A, unidentate ventral bristle; B, bidentate ventral bristle.

GENUS **EUNICE** CUVIER 1817.3. **Eunice rosaurae** n. sp. (text-fig. 282).

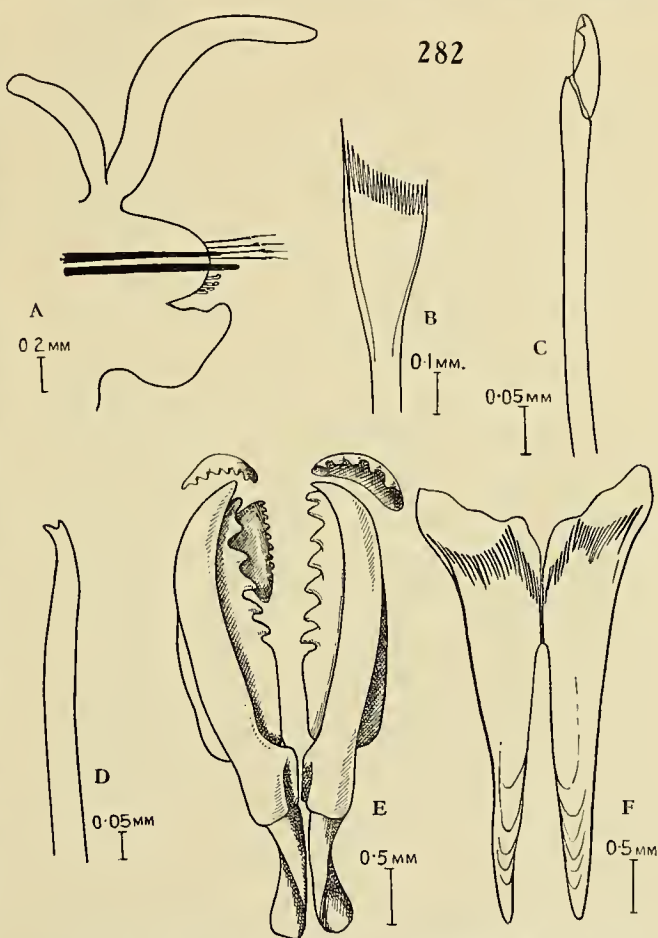
Occurrence.—Station 34, 12° 05' N., 61° 49' W., off St. George, Grenada, gear Agassiz trawl, depth 720–800 m. (5).

Description.—The largest specimen which appears almost complete measures 165 mm. by 5 mm. at the widest part without the feet for 135 chaetigers. The body is of the usual form, more or less cylindrical anteriorly and flattened in the hinder region. There are traces of brown, transverse dorsal markings. The head is bilobed and the median tentacle reaches back to the 4th–6th chaetiger. The inner laterals have about three-quarters of this length and the outer laterals about one-half. There is a pair of large eyes lying just behind the gap between the inner and outer laterals. The tentacular cirri are equal in length to the buccal segment. The tentacles and tentacular cirri are smooth, but when contracted they may give the appearance of being annulated. The buccal segment is about equal in length to the first two chaetigers.

The gills begin at the 3rd chaetiger and continue to about the 35th. They are very poorly developed and consist of a single filament, which is never more than about one-

third the length of the dorsal cirrus (text-fig. 282, A). The feet are supported by two or three black acicula. The dorsal bristles consist of capillary bristles and comb-bristles with rather numerous small teeth and a long lateral filament (text-fig. 282, B). The ventral bristles (text-fig. 282, C) are compound, bidentate, hooded hooks. There is a black subacicular chaeta (text-fig. 282, D) which is bidentate and first appears at about the 32nd chaetiger. The dorsal and ventral cirri are well developed.

I figure the jaws (text-fig. 282, E). The lower jaws (text-fig. 282, F) have a calcareous cutting edge. The dental formula is 6 – 7 : 8 + 7 – 5.



TEXT-FIG. 282.—*Eunice rosaurae*: A, fifteenth feet; B, comb bristle; C, ventral bristle; D, subacicular chaeta; E, upper jaws; F, lower jaws.

The anus is terminal and the body ends in a pair of short, ventrally placed, anal cirri.

The animal builds a parchment-like tube.

Remarks.—This species belongs to the group of Eunicids with single, cirriform gills, but I know none that has its branchiae so much reduced and confined to the anterior region. It shows affinities with *E. cariboa* Grube which differs in having the single gill filament confined to about 30 segments of the hinder region instead of the anterior.

Branchioasychis gen. nov.

Head in the form of a rounded plate having a wide border deeply incised laterally but otherwise entire. Cephalic keel flat, not clearly distinguished. Nuchal organs short and crescentic. Pygidial region not yet known. No ventral bristles in the 1st chaetiger. Hooks begin at the 2nd chaetiger. Dorsal bristles of three kinds. Anterior segments without a collar. Dorsal surface of 6th to 9th chaetigers thickly covered with long branchial papillae. Anterior region highly glandular.

Genotype: *Branchioasychis colmani* n. sp.

4. Branchioasychis colmani n. sp. (text-fig. 283).

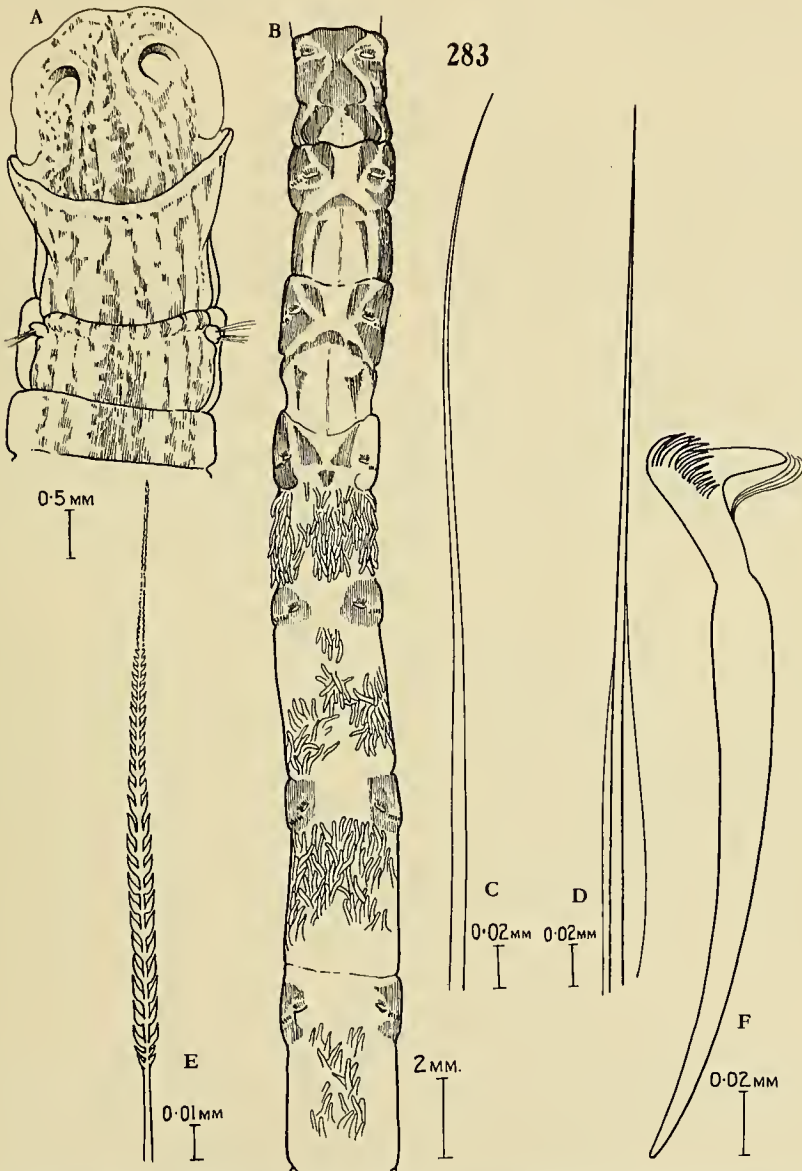
Occurrence.—Station 22, 17° 28' N., 88° 11' W., Belize Harbour, gear 2-ft. dredge, depth 6 m. (1).

Description.—The specimen is incomplete posteriorly and measures 75 mm. by 3 mm. for 15 chaetigers. The head (text-fig. 283, A) and the first 3 segments are sprinkled with dark purple markings. Otherwise there is no colour. The cephalic plate has a wide border, which at the sides merges imperceptibly into the head. It is notched laterally and forms a deep hood behind. It is quite smooth at the edge. There is no raised keel and the nuchal organs are short and crescentic. There are pigment marks on the front border of the head, but I cannot tell whether these are ocelli, or merely part of the general pigmentation. The buccal segment is equal in length to the 1st chaetiger. The first three chaetigers are divided by rings into two unequal parts, the anterior part being about twice as long as the posterior. At the 4th chaetiger this ring is no longer apparent. Anteriorly the feet lie near the front border of the segments. Farther back they seem to move more into the middle of their segments, but, as the limits of the segments are very indistinct except for the first few chaetigers, their exact position in their segments in the hinder region remains uncertain.

From the 6th to the 9th chaetigers the dorsal surface is covered with a fur-like investment of long, filiform papillae which I take to be branchiae (text-fig. 283, B). They are very different from the regularly arranged vascular caeca found in *Johnstonia*. These branchiae decrease in density from before backwards. They are very thick in the 6th chaetiger and very sparse in the 9th.

There are no ventral bristles in the 1st chaetiger. The dorsal bristles are of three kinds: (1) simple, plain capillaries (text-fig. 283, C); (2) widely bordered capillaries (text-fig. 283, D); (3) barbed bristles (text-fig. 283, E). The uncini begin at the 2nd chaetiger and are of the usual kind, having a cap of denticles, a main tooth and subrostral barbules (text-fig. 283, F). The shaft is only slightly expanded below the head.

The 1st and 2nd chaetigers are more or less uniformly glandular. The 3rd, 4th and 5th show a definite glandular pattern dorsally, which is shown in the figure. Ventrally the body is uniformly glandular up to the 7th chaetiger, except in the 3rd chaetiger, where the glands are interrupted. From the 7th



TEXT-FIG. 283.—*Branchioasychus colmani*: A, anterior end from above, showing pigmentation; B, dorsal view of 3rd to 9th chaetigers; C, dorsal bristle; D, widely bordered capillary bristle; E, barbed bristle; F, ventral hook.

chaetiger the glandular areas are confined to the uncinigerous pads and to a series of lateral spots joining the pads from segment to segment.

The anal region is missing.

Remarks.—In spite of the absence of a hinder region the well-developed branchiae justify the creation of a new genus. As far as I know, the only mention

of a branchiate Maldanid in the literature of the Polychaeta was made by Andrews (1892, p. 294), who in his paper on the Polychaeta of Beaufort, North Carolina, under the heading of *Maldane elongata* Verrill writes: "A fragment belonging, perhaps, to this genus was peculiar in having the dorsal surface of several somites thickly set with slender papillae." It is quite possible that Andrews had an example of the present species. *Branchioasychis*, apart from the branchiae, shows many affinities with *Asychis* Kinberg 1855.

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